What is claimed:

1. A network apparatus, comprising:
a performance enhancing proxy which facilitates
communication between said network apparatus and other
network entities by performing at least one performance
enhancing function.

2. The network apparatus of claim 1, wherein said
network apparatus is connected to other network entities via
a first type of connection and other network entities via a
second type of connection.

3. The network apparatus of claim 2, wherein said
performance enhancing proxy establishes multiple connections
of the first type associated with different applications,
said performance enhancing proxy including,
a spoofing element, which spoofs some of the multiple
connections of the first type based on their associated
applications.

4. The network apparatus of claim 3, wherein said
spoofing element only spoofs connections of the first type
associated with at least one of applications with high
throughput and applications for which reduced startup
latency is desired.

5. The network apparatus of claim 3, wherein said
spoofing element assigns spoofing resources, including
buffer space and control blocks, to the spoofed connections.

1   6.   The network apparatus of claim 3, wherein said
2   spoofing element spoofs connections using at least one
3   spoofing rule based on destination address, source address,
4   destination port number, source port number, options, a
5   differentiated services (DS) field or combinations thereof.

1   7.   The network apparatus of claim 6, wherein said
2   spoofing element defines the at least one spoofing rule in a
3   spoofing profile.

1   8.   The network apparatus of claim 2, wherein said
2   performance enhancing proxy establishes multiple connections
3   of the first type, said performance enhancing proxy
4   including,
5   a spoofing element, which spoofs acknowledgements
6   (ACKs).

1   9.   The network apparatus of claim 2, wherein said
2   performance enhancing proxy establishes multiple connections
3   of the first type, said performance enhancing proxy
4   including,
5   a spoofing element, which spoofs a three-way handshake
6   between said network apparatus and another network entity.

1   10.   The network apparatus of claim 2, wherein said
2   performance enhancing proxy establishes multiple connections
3   of the first type, said performance enhancing proxy
4   including,
5   a protocol element, which multiplexes multiple
6   connections of the first type onto a single connection of
7   the second type.

1   11.   The network apparatus of claim 2, wherein said
2 performance enhancing proxy establishes multiple connections
3 of the first type, said performance enhancing proxy
4 including,
5   a prioritization element, which prioritizes connections
6 of the first type to determine what priority level of the
7 connection of the second type, each of the connections of
8 the first type are assigned.

1   12.   The network apparatus of claim 11, wherein said
2 prioritizing element prioritizes connections using at least
3 one prioritizing rule based on destination address, source
4 address, destination port number, source port number,
5 protocol, a differentiated services (DS) field, a type of
6 data contained within the connection or combinations
7 thereof.

1   13.   The network apparatus of claim 12, wherein said
2 prioritizing element defines the at least one prioritizing
3 rule in a prioritizing profile.

1   14.   The network apparatus of claim 2, wherein said
2 performance enhancing proxy establishes multiple connections
3 of the first type, said performance enhancing proxy
4 including,
5   a path selection element, which selects a path for data
6 associated with connections of the first type across
7 connections of the second type or connections of other
8 types.

1   15.   The network apparatus of claim 14, wherein said
2 path selection element can select up to N paths (N>1), where
3 the Nth path is selected only if the (N-1)th path fails.

1   16.   The network apparatus of claim 15, wherein said
2 path selection element selects a path using at least one
3 path selection rule based on priority, a destination
4 address, source address, destination port number, source
5 port number, protocol, a differentiated services (DS) field
6 or combinations thereof.

1   17.   The network apparatus of claim 16, wherein said
2 path selection element defines the at least one path
3 selection rule in a path selection profile.

1   18.   The network apparatus of claim 2, wherein said
2 performance enhancing proxy establishes multiple connections
3 of the first type, said performance enhancing proxy
4 including,
5   a compression/encryption element, which compresses
6 and/or encrypts data associated with connections of the
7 first type for transmission across connections of the second
8 type.

1   19.   The network apparatus of claim 2, wherein the
2 first connection uses a high layer protocol.

1   20.   The network apparatus of claim 2, wherein the
2 first connection uses one of the Transmission Control
3 Protocol (TCP) and the User Datagram Protocol (UDP).

1   21.   The network apparatus of claim 2, wherein the
2   second connection is a backbone connection.

1   22.   The network apparatus of claim 21, wherein the
2   backbone connection is via a wireless link.

1   23.   The network apparatus of claim 22, wherein the
2   wireless link has high latency and high error rate.

1   24.   The network apparatus of claim 22, wherein the
2   wireless link is a satellite link.

1   25.   The network apparatus of claim 2, wherein said
2   network apparatus is a component of a network gateway.

1   26.   The network apparatus of claim 2, wherein said
2   network apparatus is a component of a host.

1   27.   The network apparatus of claim 2, wherein said
2   network apparatus is a component of a hub.

1   28.   The network apparatus of claim 2, wherein said
2   network apparatus is a component of a VSAT.

1   29.   The network apparatus of claim 2, wherein said
2   network apparatus is a component of a router.

1   30.   A method, comprising:
2   facilitating communication between a network apparatus
3   and other network entities by performing at least one
4   performance enhancing function.

1   31.   The method of claim 30, wherein the network
2   apparatus is connected to other network entities via a first
3   type of connection and other network entities via a second
4   type of connection.

1   32.   The method of claim 31, further comprising:
2   establishing multiple connections of the first type
3   associated with different applications; and
4   spoofing some of the multiple connections of the first
5   type based on their associated applications.

1   33.   The method of claim 32, wherein said spoofing step
2   only spoofs connections of the first type associated with at
3   least one of applications with high throughput and
4   applications for which reduced startup latency is desired.

1   34.   The method of claim 32, wherein said spoofing step
2   assigns spoofing resources, including buffer space and
3   control blocks, to the spoofed connections.

1   35.   The method of claim 32, wherein said spoofing step
2   spoofs connections using at least one spoofing rule based on
3   destination address, source address, destination port
4   number, source port number, options, a differentiated
5   services (DS) field or combinations thereof.

1   36.   The method of claim 35, wherein said spoofing step
2   defines the at least one spoofing rule in a spoofing
3   profile.

1   37. The method of claim 31, further comprising:

2   establishing multiple connections of the first type;

3 and

4   spoofing acknowledgements (ACKs).

1   38. The method of claim 31, further comprising:

2   establishing multiple connections of the first type;

3 and

4   spoofing a three-way handshake between the network

5 apparatus and another network entity.

1   39. The method of claim 31, further comprising:

2   establishing multiple connections of the first type;

3 and

4   multiplexing multiple connections of the first type

5 onto a single connection of the second type.

1   40. The method of claim 31, further comprising:

2   establishing multiple connections of the first type;

3 and

4   prioritizing connections of the first type to determine

5 what priority level of the connection of the second type,

6 each of the connections of the first type are assigned.

1   41. The method of claim 40, wherein said prioritizing

2 step prioritizes connections using at least one priority

3 rule based on destination address, source address,

4 destination port number, source port number, protocol, a

5 differentiated services (DS) field, type of data contained

6 within the connection or combinations thereof.

1   42. The network apparatus of claim 41, wherein said

2 prioritizing element defines the at least one prioritizing

3 rule in a prioritizing profile.

1   43. The method of claim 31, further comprising:

2   establishing multiple connections of the first type;

3 and

4   selecting a path for data associated with connections

5 of the first type across connections of the second type or

6 connections of other types.

1   44. The method of claim 43, wherein said selection

2 step selects up to N paths (N>1), where the Nth path is

3 selected only if the (N-1)th path fails.

1   45. The method of claim 44, wherein said selection

2 step selects a path using at least one path selection rule

3 based on priority, a destination address, source address,

4 destination port number, source port number, protocol, a

5 differentiated services (DS) field or combinations thereof.

1   46. The method of claim 45, wherein said selection

2 step defines the at least one path selection rule in a path

3 selection profile.

1   47. The method of claim 31, further comprising:

2   establishing multiple connections of the first type;

3 and

4   compressing and/or encrypting data associated with

5 connections of the first type for transmission across

6 connections of the second type.

1   48.   The method of claim 31, wherein the first

2 connection uses a high layer protocol.

1   49.   The method of claim 31, wherein the first

2 connection uses one of the Transmission Control Protocol

3 (TCP) and the User Datagram Protocol (UDP).

1   50.   The method of claim 31, wherein the second

2 connection is a backbone connection.

1   51.   The method of claim 50, wherein the backbone

2 connection is via a wireless link.

1   52.   The method of claim 51, wherein the wireless link

2 has high latency and high error rate.

1   53.   The method of claim 50, wherein the wireless link

2 is a satellite link.

1   54.   The method of claim 31, wherein said method is

2 performed in a network gateway.

1   55.   The method of claim 31, wherein said method is

2 performed in a host.

1   56.   The method of claim 31, wherein said method is

2 performed in a hub.

1   57.   The method of claim 31, wherein said method is

2 performed in a VSAT.

1   58.   The method of claim 31, wherein said method is
2 performed in a router.

1   59.   The method of claim 31, wherein said method is
2 performed in a switch.

1   60.   The network apparatus of claim 2, wherein said
2 network apparatus is a component of a switch.